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| 10/720,304 | 11/24/2003 | Kazem Memarzadeh | A-9574 | 4129 |

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| EXAMINER |
|--------------|
| LEE, BETTY E |

| ART UNIT | PAPER NUMBER |
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| 2619 | |

| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|
| 11/26/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary

Application No.

10/720,304

Applicant(s)

MEMARZADEH ET AL.

Examiner

Betty Lee

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims **1-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinett et al. (US 2005/0105486) in view of Pekonen (US 7,130,313).

Regarding claim 1, Robinett teaches a receive processor for receiving the plurality of packets, where each packet has a packet identifier (see Fig. 3 Box 402 "PID"); buffers for receiving and buffering the plurality of packets, wherein each packet is provided to one of the buffers according to a specific program (see paragraph 85); a packet processor for retrieving each buffered packet from the buffers (see Fig. 2 Box 160); each retrieved packet is provided to one of the time-slot queues according to a specific program (see Fig. 2 Box "Descriptor Queue"); a queue manager for controlling output of each packet from the time-slot queues depending upon its egress time, and for providing the packets to the receiving devices (see paragraph 42; The processor schedules the packets in the queue.); where the queue manager, upon removing a packet from one of the time-slot queues, notifies the packet processor to retrieve and place a next packet having a common program identifier as the removed packet (see paragraphs 218; The processor receives an interrupt to place a packet with the selected descriptor in the queue.). Robinett also teaches that packets with the same departure times (bursts) are scheduled in successive slots (see paragraph 139). Robinett teaches all the subject matter of the claimed invention with the exception of time-sliced queues for queuing the packet into an index of individual time slices of a time-sliced queue.

However, Pekonen teaches time-sliced queues for queuing the retrieved packet into an index of individual time slices of a time-sliced queue (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 2, Robinett further teaches the packet processor uses the selected descriptors to search for packets to be scheduled (see paragraph 218).

Regarding claim 3, Robinett further teaches the receive processor generating a interrupt to the processor depending on the PID (see paragraph 103).

Regarding claim 4, Robinett further teaches the packet processor generates the egress time associated with each packet, and depending upon the egress time, places the packet into an index in one of the time-slot queues (see paragraph 147). Robinett teaches all the subject matter of the claimed invention with the exception of placing the packet into an index of one of the time-sliced queues.

However, Pekonen teaches placing the packet into an index of one of the time-sliced queues (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 5, Robinett further teaches a null packet is used to maintain flow of each program when there are no packets available in the buffers for that program (see paragraph 193).

Regarding claim 6, Robinett teaches buffering the plurality of jittered packet, each jittered packet buffered in one of a plurality of buffers according to a specific program (see paragraph 138); retrieving each buffered packet from the plurality of buffers depending upon a program identifier identifying the specific program (see paragraph 147); queuing the retrieved packets in one of a plurality of time slot queues

according to the specific program (see paragraph 131); removing the queued packets according to an output time associated with the packets and the program identifier (see paragraph 119); and where upon removing a packet, providing a packet-sent signal in order to retrieve a next buffered packet having a common program identifier with the removed packet (see paragraphs 218; The processor receives an interrupt to place a packet with the selected descriptor in the queue.). Robinett also teaches that packets with the same departure times (bursts) are scheduled in successive slots (see paragraph 139). Robinett teaches all the subject matter of the claimed invention with the exception of when more than one of the retrieved packets regardless of the packet's specific program has a common egress time, the retrieved packets having the common egress time are linked together and queued in a common time slice in one of the plurality of time-sliced queues.

However, Pekonen teaches when more than one of the retrieved packets regardless of the packet's specific program has a common egress time, the retrieved packets having the common egress time are linked together and queued in a common time slice in one of the plurality of time-sliced queues (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 7, Robinett further teaches determining an index into one of the time-slot queues based on the output time (see paragraph 147); and placing a packet descriptor that is indicative of one of the buffered packet or more than one of the

retrieved buffered packets into the determined index (see paragraph 147). Robinett teaches all the subject matter of the claimed invention with the exception of the time-sliced queues.

However, Pekonen teaches determining an index into one of the time-sliced queues; and placing a descriptor indicative of one or more than one of the packets into the index (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 8, Robinett teaches in a system with a plurality of digital data streams: retrieving an appropriate output time for each data packet (see paragraph 147); determining an index into one of a plurality of time-slot queues based on the data packet output time (see paragraph 147); placing a packet descriptor that is indicative of at least one data packet in one of the time slot-queues based on the index (see paragraph 147); removing the packet descriptor from one of the time-slot queues during a time that matches a time slot in the time-slot queue in which the packet descriptor was placed (see paragraph 147); and transmitting that at least one data packet (see paragraph 147). Robinett teaches all the subject matter of the claimed invention with the exception of the time-sliced queues.

However, Pekonen teaches determining an index into one of the time-sliced queues; and placing a descriptor indicative of one or more than one of the packets into the index (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary

skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 9, Robinett further teaches a new-stream signal is used to trigger a beginning packet flow for a particular stream (see paragraph 103; If a new unique packet identifier is received, that signals the beginning of a packet flow for the new stream.).

Regarding claim 10, Robinett further teaches a packet-sent signal is used to trigger placing a next packet in one of the plurality of time-slot queues for a particular stream (see paragraph 103; The packets are sorted into buffers depending on the PID.). Robinett teaches all the subject matter of the claimed invention with the exception of the time-sliced queues.

However, Pekonen teaches determining an index into one of the time-sliced queues; and placing a descriptor indicative of one or more than one of the packets into the index (see col. 12 lines 4-31). Thus, it would have been obvious to one of ordinary skill in the art to use the time-sliced queues of Pekonen as the time slot queues in the system of Robinett. The motivation for doing so is to retain the original burst timing of the packets.

Regarding claim 11, Robinett further teaches a null packet is used to maintain flow of each program when there are no packets available in the buffers for that program (see paragraph 193).

Regarding claim 12, Robinett further teaches the packets are one of an MPEG encoded video, audio, and data packets (see paragraph 36).

Regarding claim 13, Robinett teaches all the subject matter of the claimed invention with the exception of when more than one packet has a common egress time, the more than one packet is linked together and queued in a common time slice. However, Pekonen teaches when more than one packet has a common egress time, the more than one packet is linked together and queued in a common time slice (see col. 12 lines 4-31; The packets are linked together in the index and by placement in the same slice.).

Regarding claim 14, Robinett further teaches the packets are removed on a FIFO basis (see paragraph 147; The descriptors are examined in order.).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fimoff et al. (US 5,563,884) and Bly et al. (US 7,272,150) are all cited to show systems which are considered pertinent to the claimed invention.

6. Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as

well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

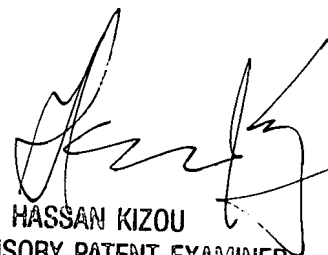
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betty Lee whose telephone number is (571) 270-1412. The examiner can normally be reached on Monday-Thursday 9-5 EST and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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